Appl. No.: 09/675,920
Reply to Final Office Action of June 30, 2005

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the

claims in the application.

Listing of the Claims:

1. (currently amended) A printing system comprising

    a) a host device for executing programs;

    b) an office machine having a print engine for receiving print engine ready data
       and based thereon for rendering images and a PC card slot for receiving
       PC cards; wherein the office machine does not have a printer controller
       and

    c) a PC card for removably coupling with the PC card slot of the office machine
       and for coupling with the host device, the PC card having a formatter
       printer controller integrated circuit for providing formatter printer
       controller functions, the formatter printer controller integrated circuit for
       receiving printer formatter controller ready data from the host device and
       based thereon for generating print engine ready data; wherein the office
       machine requires the PC card with printer controller to be coupled
       thereto to render images; and wherein the printer controller may be
       replaced or upgraded by a user without intervention of the manufacturer
       of the office machine.

2. (currently amended) The printing system of claim 1 further comprising:

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d) printer ~~formatter~~ controller firmware that when executed by the printer

formatter controller causes the printer ~~formatter~~ controller to perform

~~formatter~~ printer controller functions;

e) printing software having an automatic update module that when executing on

the host device automatically downloads to the host device from a

source one of an updated version of printer ~~formatter~~ controller firmware

and the printing software.

3.   (original) The printing system of claim 2 wherein the source is one of a web

server and a computer readable medium.

4.   (currently amended) The printing system of claim 2 wherein the automatic

update module when executing on the host device automatically downloads to

the printer ~~formatter~~ controller an updated version of printer ~~formatter~~ controller

firmware.

5.   (currently amended) An office machine comprising:

a) a laser print engine for rendering images; and

b) PC card slot coupled to the laser print engine for receiving a removable PC

card that includes a printer ~~formatter~~ controller; wherein the PC card slot

is utilized to transfer ~~formatter~~ output from the printer ~~formatter~~

controller to the ~~rendering~~ laser print engine; wherein the office machine

requires the PC card with printer controller to be coupled thereto to

render images; and wherein a defective printer controller may be

replaced by an operational printer controller or an out-dated printer

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controller may be upgraded with a new printer controller by removing the PC card with the defective or old printer controller from the office machine and by inserting a new PC card with the operational or new printer controller into the office machine.

6.   (original) The office machine of claim 5 further comprising:

c) a print engine ready data interface for coupling to a PC card and selectively receiving print engine ready data therefrom.

7.   (currently amended) The office machine of claim 5 wherein the office machine is one of a laser printer, inkjet printer, and an all-in-one laser office machine.

8.   (currently amended) A removable PC card for removably coupling with corresponding card slot in a laser office machine comprising:

a) a formatter printer controller integrated circuit for providing formatter printer controller functions; and

b) a connector having a print engine ready data interface for coupling to the laser office machine and selectively receiving print engine ready data therefrom;

wherein the PC card is adapted for insertion into a corresponding PC card slot in the printer laser office machine and wherein the formatter printer controller integrated circuit may provide formatter printer controller functions to the printer laser office machine when coupled thereto; wherein a defective printer controller may be replaced by an operational printer controller or an out-dated printer controller may be upgraded

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with a new printer controller by removing the PC card with the defective
or old printer controller from the laser office machine and by inserting a
new PC card with the operational or new printer controller into the laser
office machine.

9.   (original) The removable PC card of claim 8 further comprising:

c) a connector having a printer formatter ready data interface for coupling to a
host machine and selectively receiving printer formatter ready data
therefrom.

10.   (currently amended) A method of printing in a system that includes an office
machine having a print engine and a slot for receiving a PC card, a PC card for
removably coupling to the office machine, the PC card having a printer
formatter controller and a memory for storing a printer formatter controller
program, a host having a printing software, the method comprising:

a) determining whether the PC card has been operationally coupled to the slot of
the office machine;

b) when it is determined that the PC card has been operationally coupled to the
office machine, then determining whether the printer formatter controller
program is loaded in the memory of the printer formatter; otherwise
proceeding to step (a);

c) when it is determined that the printer formatter controller program is loaded
in the memory, then determining whether the printer controller program
is valid; otherwise, loading the printer formatter controller program into
the memory and repeating step (c);

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d) when it is determined that the printer ~~formatter~~ controller program is valid,
then determining whether the printer ~~formatter~~ controller program is
compatible with the print engine, the printing software and printer
formatter;

e) when it is determined that the printer ~~formatter~~ controller program is loaded,
valid, and compatible with the print engine, the printing software and
printer ~~formatter~~ controller, then sending data to be printed to the printer
~~formatter~~ controller.

11.   (original) The method of claim 10 further comprising:

d1) when the printer controller program is one of not loaded, invalid, and
incompatible, then notifying a user of the incompatibility.

12.   (original) The method of claim 10 further comprising:

d1) when the printer controller program is one of not loaded, invalid, and
incompatible, then downloading the printer controller program to the
memory.

13.   (previously presented) The method of claim 12 wherein downloading the
printer controller program to the printer controller further comprises:
downloading the printer controller program from the host to the memory.

14.   (previously presented) The method of claim 12 wherein downloading the printer
controller program to the printer controller further comprises:
downloading the printer controller program from a web site to the memory.

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15.   (previously presented) The method of claim 10 wherein determining whether

the printer controller program is valid further comprises:

performing a cyclic redundancy check on the printer controller program.

16.   (previously presented) The printing system of claim 1 wherein the PC card

includes a form factor that is one of a form factor of the Personal Computer

Memory Card International Association (PCMCIA) type I card, a form factor of

PCMCIA type II card, and a form factor of PCMCIA type III card.

17.   (previously presented) The removable PC card of claim 8 wherein the PC card

includes a form factor that is one of a form factor of the Personal Computer

Memory Card International Association (PCMCIA) type I card, a form factor of

PCMCIA type II card, and a form factor of PCMCIA type III card.

18.   (previously presented) The office machine of claim 5 wherein the PC card slot

receives PC cards having a form factor that is one of a form factor of the

Personal Computer Memory Card International Association (PCMCIA) type 1

card, a form factor of PCMCIA type II card, and a form factor of PCMCIA type

III card.

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